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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/981,409	10/17/2001	Katsumi Kurematsu	1232-4780	5838

7590 03/04/2003

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EXAMINER

CRUZ, MAGDA

ART UNIT

PAPER NUMBER

2851

DATE MAILED: 03/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/981,409

Applicant(s)

KUREMATSU, KATSUMI

Examiner

Magda Cruz

Art Unit

2851

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 October 2001.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 October 2001 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☒ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 5.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Priority

1. Acknowledgment is made of applicant's claim for foreign priority based on an application filed in Japan on 10/18/2000. It is noted, however, that applicant has not filed a certified copy of the 318138/2000 application as required by 35 U.S.C. 119(b).

Drawings

2. The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the "pixel mirror not tilted" (claim 2) and the "aperture which shields, of the reflected light components from said mirror device, a light component which is not to be projected onto the projected surface" (claim 5) must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

3. Figure 3 should be designated by a legend such as --Prior Art-- because only that which is old is illustrated. See MPEP § 608.02(g). A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

4. Applicant is required to submit a proposed drawing correction in reply to this Office action. However, formal correction of the noted defect may be deferred until after the examiner has considered the proposed drawing correction. Failure to timely submit the proposed drawing correction will result in the abandonment of the application.

Specification

5. The abstract of the disclosure is objected to because it exceeds 150 words in length. Correction is required. See MPEP § 608.01(b).
6. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

8. Claims 1-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koyama, et al. in view of Kim et al.

Koyama, et al. (US Patent Number 6,188,529 B1) discloses a projection type display apparatus (Figure 6) comprising a diffraction grating (3-1), an illumination optical system (1), a projecting optical system (22) for projecting reflected light onto a projected surface (23). An aperture (28), which shields a light component, which is not to be

projected onto the projected surface (23). A color of light to be projected onto the projected surface (23) is switched by switching the angle range of the tilt angle (column 6, lines 36-37), wherein the tilt angle is maximized to display a desired color (i.e. red, green, blue) on the projected surface (column 6, lines 25-28) and wherein color display is performed by mixing the color light components (column 8, lines 57-65). The diffraction grating (3-1) is an echelon grating (column 14, lines 58-59), wherein said diffraction grating (3-1) has a staircase shape (Figure 10). The color to be displayed on the projected surface (23) is switched by changing the tilt angle (column 11, lines 15-17). The direction in which light diffracted is distributed and a tilt direction is in the same plane (column 7, lines 10-21). The diffracted light of each color is deflected in a separation direction of each color light component diffracted (column 14, line 58 through column 15, line 3).

Koyama, et al. teaches the salient features of the present invention, except a mirror array device comprising a plurality of tiltable pixel mirrors. However, Koyama, et al. comprises deflection means having a plurality of mirrors arranged tilted at an interval (column 7, lines 10-11).

Kim et al. (US Patent Number 5,760,947) discloses a mirror array device (50) comprising a plurality of tiltable pixel mirrors (51).

It would have been obvious to one of ordinary skill in the art at the time of the invention was made to utilize the mirror array device disclosed by Kim et al. in substitution of the plurality of mirrors from Koyama, et al.'s invention, for the purpose of incorporating a plurality of thin film layers of a motion-inducing, an electrically

conducting and a light reflecting materials (column 2, lines 20-22), and providing an array of actuated mirrors for use in an optical projection system (column 2, lines 25-26).

Conclusion

9. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ji et al. (US Patent Number 5,481,396) relates generally to actuated mirror arrays for optical projection video systems, and more particularly to thin film actuated mirror arrays for optical projection systems.

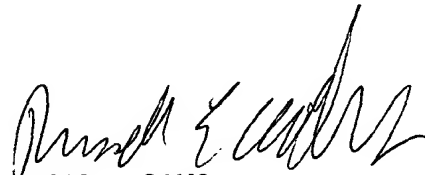
Kim et al. (US Patent Number 5,661,611) discloses an array of thin film actuated mirrors for use in an optical projection system.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Magda Cruz whose telephone number is (703)308-6367. The examiner can normally be reached on Monday through Thursday 8:00-5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Russ Adams can be reached on (703)308-2847. The fax phone numbers for the organization where this application or proceeding is assigned are (703)872-9318 for regular communications and (703)872-9319 for After Final communications.

Art Unit: 2851

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703)308-1782.

A handwritten signature in black ink, appearing to read 'Russell Adams', is written above the printed name.

RUSSELL ADAMS
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2800

Magda Cruz
Patent Examiner
February 27, 2003